

Title (en)
INTERNAL GAS SPRING DISPLACEMENT SENSORS AS WELL AS GAS SPRING ASSEMBLIES AND SUSPENSION SYSTEMS INCLUDING SAME

Title (de)
INTERNE GASFEDERWEGSENSOREN SOWIE GASFEDERANORDNUNGEN UND AUFHÄNGUNGSSYSTEME DAMIT

Title (fr)
CAPTEURS DE DÉPLACEMENT DE RESSORT À GAZ INTERNES ET ENSEMBLES DE RESSORT À GAZ ET SYSTÈMES DE SUSPENSION COMPRENANT CEUX-CI

Publication
EP 3436293 B1 20210804 (EN)

Application
EP 17716718 A 20170328

Priority
• US 201662314369 P 20160328
• US 201762460629 P 20170217
• US 2017024623 W 20170328

Abstract (en)
[origin: WO2017172831A1] Displacement sensors can include a photon source and a target surface disposed in spaced relation to the photon source. Displacement sensors can also include a photon receptor disposed along an associated gas spring end member in spaced relation to the target surface. A processor can be communicatively coupled with the photon source and the photon receptor. The photon source can be operable to direct photons toward the target surface. The photon receptor can be operable to generate a signal upon receiving photons reflected off the target surface from the photon source. The processor can operate to determine a distance having a relationship to a time of flight of photons reflected off of the target surface from the photon source and received at the photon receptor. A gas spring assembly including such a displacement sensor, and a suspension system including one or more of such gas spring assemblies are also included.

IPC 8 full level
B60G 11/27 (2006.01); **B60G 17/019** (2006.01)

CPC (source: EP US)
B60G 11/27 (2013.01 - EP US); **B60G 17/019** (2013.01 - EP US); **F16F 9/05** (2013.01 - US); **F16F 9/3292** (2013.01 - US); **F16F 9/369** (2013.01 - US); **G01S 7/4813** (2013.01 - US); **G01S 7/4814** (2013.01 - US); **G01S 7/4816** (2013.01 - US); **G01S 17/08** (2013.01 - US); **B60G 2202/152** (2013.01 - EP US); **B60G 2204/111** (2013.01 - EP US); **B60G 2400/252** (2013.01 - EP US); **B60G 2401/21** (2013.01 - US); **B60G 2500/30** (2013.01 - US); **F16F 2222/126** (2013.01 - US); **F16F 2230/08** (2013.01 - US)

Cited by
EP3995717A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2017172831 A1 20171005; EP 3436293 A1 20190206; EP 3436293 B1 20210804; US 2019111751 A1 20190418

DOCDB simple family (application)
US 2017024623 W 20170328; EP 17716718 A 20170328; US 201716089189 A 20170328